

COMPREHENSIVE CAREER AND TECHNICAL EDUCATION PROGRAMS

Beginning in 1987, the Arizona Department of Education initiated a major effort to update and restructure vocational education. The Division of Vocational Technological Education in cooperation with representatives of business and industry, and full participation of teachers and administrators, developed a new framework for vocational instruction. This framework was called the "Arizona Model for Vocational Technological Education."

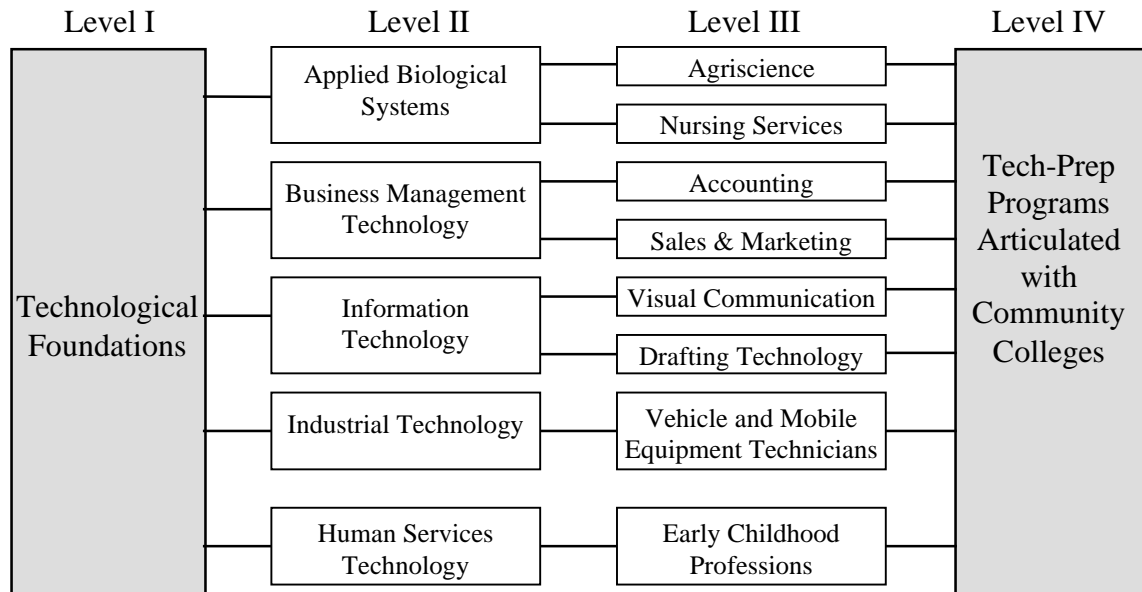
During the past decade, the Vocational Technical Education/School to Work Division at the Arizona Department of Education has been involved in assisting schools and districts to restructure their vocational education programs. This restructure came about as the result of the recognition that many students were not being prepared adequately for the workforce. It was determined that more emphasis needed to be placed on students' acquiring a strong foundation in academic and technical skills as well as having access to quality state-of-the-art technology - the driving force behind tomorrow's jobs.

On September 25, 2000 the State Board of Vocational Technological Education approved the name change from Vocational Education to Career and Technical Education (CTE). Today all career and technical education programs are comprehensive in that they are designed around an instructional sequence consisting of four levels. Courses in each level focus on developing decision-making skills, career development skills, academic skills, teamwork and leadership skills, technology skills, workplace skills and occupational skills. The four instructional levels areas are as follows:

- Level I, which is designed for grades 7 and 8 is the exploratory level. It represents a core of academic and technical competencies that support all occupations and career exploration for all interest areas. These competencies may also be taught at the high school level.
- Level II, which is designed for grades 9 and 10, serves as the transition between the broad exploration provided at Level I and occupationally specific instruction provided at Level III. Students develop higher levels of proficiency in one or more occupational "clusters." The five Level II clusters provide CTE students with the foundation of core skills necessary to continue their training in the specific occupational program.
- Level III, which is designed for grades 11 and 12, provides students with occupationally specific preparation that leads to employment after graduation and /or further education and training.
- Level IV, which is designed for the years after high school, is the final level in this sequence. Students begin entry-level employment and/or receive advanced training and education at a community college, a proprietary school, a university or in the military.

Students also have the option of participating in tech-prep programs and/or work-based learning experiences-both of which can provide them access and exposure to technology used in the workplace as well as all aspects of the industry.

The sequence for several comprehensive programs are outlined in the chart below:



TECHNOLOGICAL FOUNDATIONS

COURSE CODE: 90.0000.10

DESCRIPTION: LEVEL I

Level I is the foundation experience for all Career and Technical Education Programs. The Arizona Department of Education approved curriculum introduces students to the world of work, related technologies and includes academic and occupational competencies designed for all seventh and eighth grade students. These competencies may also be delivered at the high school level. Six skill strands have been identified and incorporated as a component of this curriculum: Career Development, Applied Academics, Life Management, Technology, Business/Economic, and Leadership skills. The instruction is supported by a flexible learning environment, appropriate technology and support systems.

The competencies developed for Level I students address career exploration and core skill development common to **virtually all occupations**:

- 1.0 Explore career interests
- 2.0 Explore the world of work
- 3.0 Explore human relations skills
- 4.0 Explore health and safety in the workplace
- 5.0 Explore technology in the workplace
- 6.0 Explore problem solving in the workplace

APPLIED BIOLOGICAL SYSTEMS-AGRICULTURE

COURSE CODE: 99.0300.20

DESCRIPTION: LEVEL II

The Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Applied Biological Systems cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Applied Biological Systems-Agriculture is defined as an instructional experience that provides students with an appreciation for living systems as applied to the science of food and fiber production, food processing and human health, and allows students to attain the following competencies:

- 1.0 Demonstrate laboratory procedures and safety practices
- 2.0 Describe mammal health needs
- 3.0 Describe basic principles of nutrition
- 4.0 Examine the interaction of biological systems within the environment
- 5.0 Describe principles of plant growth production
- 6.0 Describe principles of animal growth and production
- 7.0 Describe food safety and processing practices
- 8.0 Describe advances in technology
- 9.0 Discuss bioethical issues
- 10.0 Demonstrate group dynamics and leadership skills
- 11.0 Demonstrate communication skills in a business situation
- 12.0 Develop an employment plan
- 13.0 Identify job-seeking tools and skills
- 14.0 Prepare for employment

APPLIED BIOLOGICAL SYSTEMS-FOOD SCIENCE

COURSE CODE: 99.0300.40

DESCRIPTION: LEVEL II

The Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Applied Biological Systems cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Applied Biological Systems-Food Science is defined as an instructional experience that provides students with an appreciation for living systems as applied to the science of food and fiber production, food processing and human health, and allows students to attain the following competencies:

- 1.0 Demonstrate laboratory procedures and safety practices
- 2.0 Apply the basic principles of nutrition
- 3.0 Demonstrate chemical reactions and physical changes that occur during food preparation
- 4.0 Describe food safety and food processing practices
- 5.0 Analyze technology used in food product development and marketing
- 6.0 Research careers in food science, food preparation, dietetics, and nutrition
- 7.0 Develop an employment plan
- 8.0 Demonstrate job search skills
- 9.0 Demonstrate employability skills

APPLIED BIOLOGICAL SYSTEMS-HEALTH

COURSE CODE: 99.0300.30

DESCRIPTION: LEVEL II

The Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Applied Biological Systems cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Applied Biological Systems-Health is defined as an instructional experience that provides students with an appreciation for living systems as applied to human health, and allows students to attain the following competencies:

- 1.0 Demonstrate safety compliance in the laboratory
- 2.0 Describe the human body systems
- 3.0 Describe basic principles of human nutrition
- 4.0 Examine health and wellness issues
- 5.0 Analyze the influence of technology on health
- 6.0 Develop an employment plan
- 7.0 Demonstrate job search skills
- 8.0 Demonstrate employability skills

BUSINESS MANAGEMENT TECHNOLOGY

COURSE CODE: 99.0400

DESCRIPTION: LEVEL II

This Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of business related occupational skills. The Business Management Technology cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Business Management Technology is defined as an instructional experience that provides students with an understanding of, and a familiarity with, the principles and practices of business. Students will attain the following competencies:

- 1.0 Initiate business communication
- 2.0 Communicate using technology
- 3.0 Solve problems and make decisions
- 4.0 Organize business information
- 5.0 Use computer technology to support business operations
- 6.0 Apply economic principles to business operations and management
- 7.0 Demonstrate the principles of business management
- 8.0 Analyze the legal and ethical environment of business
- 9.0 Calculate and prepare financial records
- 10.0 Apply marketing principles to business operations
- 11.0 Develop an employment plan
- 12.0 Identify job seeking skills
- 13.0 Prepare for employment

HUMAN SERVICES TECHNOLOGY

COURSE CODE: 99.0500

DESCRIPTION: LEVEL II

The Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Human Services Technology cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Human Services Technology is defined as an instructional experience that provides students with an orientation to, and an understanding of, occupations that directly address the welfare of human beings. Students will attain the following competencies:

- 1.0 Analyze careers in human services
- 2.0 Analyze growth and development of humans
- 3.0 Analyze factors influencing human behavior
- 4.0 Demonstrate communication skills in human services occupations
- 5.0 Examine legal and ethical issues in human services occupations
- 6.0 Explore the use of technology in human services occupations
- 7.0 Develop an employment plan
- 8.0 Demonstrate job search skills
- 9.0 Demonstrate employability skills

INDUSTRIAL TECHNOLOGY

COURSE CODE: 99.0200

DESCRIPTION: LEVEL II

The Level II Experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Industrial Technology cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Industrial Technology is defined as an instructional experience that provides students an understanding of, and orientation to, occupations involved in the design, production, processing, assembling, testing, maintaining, servicing and repairing of goods. Student will attain the following competencies:

- 1.0 Practice safe working procedures
- 2.0 Utilize and practice safe use of tools and machines
- 3.0 Describe types of construction
- 4.0 Demonstrate the elements of construction
- 5.0 Evaluate the elements of construction technology
- 6.0 Describe types of manufacturing systems
- 7.0 Demonstrate the elements of the manufacturing process
- 8.0 Evaluate the elements of manufacturing technology
- 9.0 Describe transportation systems
- 10.0 Demonstrate transportation components
- 11.0 Evaluate the elements of transportation technology
- 12.0 Demonstrate the use of an electrical/electronic system
- 13.0 Describe properties of materials
- 14.0 Demonstrate methods of energy applications
- 15.0 Describe industrial career opportunities
- 16.0 Develop an employment plan
- 17.0 Demonstrate job search skills
- 18.0 Demonstrate employability skills

INFORMATION TECHNOLOGY

COURSE CODE: 99.0100

DESCRIPTION: LEVEL II

The Level II experience is designed for students in grades nine through ten and includes core skill development for a cluster of related occupations. Students may select one or more of the five Level II clusters which have been grouped together by common skills, knowledge and a set of Employability Skills found in a range of occupations. The Information Technology cluster serves as a transition between the broad exploration provided through the Level I Technological Foundations experience and the occupationally specific instruction provided at Level III.

Information Technology is defined as an instructional experience that provides students with an understanding of, and orientation to, occupations involved in communications, design of systems and processes and information management. Student will attain the following competencies:

- 1.0 Demonstrate communication as a system
- 2.0 Demonstrate drawing and visualization skills
- 3.0 Capture data for media applications
- 4.0 Edit data for media applications
- 5.0 Demonstrate media production skills
- 6.0 Apply resource management to media tasks
- 7.0 Develop an employment plan
- 8.0 Demonstrate job search skills
- 9.0 Demonstrate employability skills

LEVEL II CLUSTERS BY PROGRAM

Programs	Applied Biological Systems- Agriculture	Applied Biological Systems- Food Science	Applied Biological Systems- Health	Human Services Technology	Industrial Technology	Information Technology	Business Manage- ment Technology
Accounting						o	●
Administrative Information Services							●
Ag Bus Mgmt: Agriscience	●	o	o				o
Ag Bus Mgmt: Horticulture	●	o	o				o
Ag Bus Mgmt: Renewable Natural Resources	●	o	o				o
Allied Health Services			●	o			
Apparel Design and Merchandising				●		o	o
Building Maintenance					●	o	o
Building Trades					●		o
Business Information Technology Services							
Business Management and Administrative Services							
Cabinetmaking					●		o
Carpentry					●		o
Cosmetology			o	●			o
Dental Services			●	o			
Drafting Technology					o	●	
Early Childhood Professions		o		●			o
Electronics Technology					●	o	o

- Level II Cluster students **should** take
- o Additional Level II Clusters students **may** elect to take

LEVEL II CLUSTERS BY PROGRAM

Programs	Applied Biological Systems- Agriculture	Applied Biological Systems- Food Science	Applied Biological Systems- Health	Human Services Technology	Industrial Technology	Information Technology	Business Manage- ment Technology
Financial Services				o			•
Fire Science	o			o	•		
Food Production/ Culinary Arts		•		o			o
Graphic Communication					o	•	
Heating, Ventilation, Air Conditioning/Refrig					•	o	o
Heavy Equipment Operation					•		o
Hospitality Services		o		o			•
Law Enforcement				•		o	o
LifeSkills		o		•			o
Masonry					•		o
Media Communication					o	•	o
Nursing Services			•	o			
Plumbing					•		o
Precision Metal Workers					•		o
Residential Electrician					•	o	o
Sales and Marketing				o		o	•
Upholstering					•		o
Vehicle & Mobile Equipment Technicians					•		o
Visual Communications					o	•	

- Level II Cluster students **should** take
- o Additional Level II Clusters students **may** elect to take

ACCOUNTING

PROGRAM CODE: 52.0300

DESCRIPTION: LEVEL III

The Accounting instructional program is designed to prepare students for employment with business knowledge and accounting technical skills for careers in accounting, such as: accounts payable clerks, accounts receivable clerks, payroll clerks, inventory clerks and bookkeeping clerks in all industries. A student completing this program will also possess the foundation skills needed for further education in the accounting profession.

Accounting competencies include:

- 1.0 Perform general ledger functions
- 2.0 Perform accounts payable functions
- 3.0 Perform accounts receivable functions
- 4.0 Perform payroll functions
- 5.0 Perform general accounting functions
- 6.0 Utilize technology to support accounting functions
- 7.0 Demonstrate customer service skills
- 8.0 Conduct a job search
- 9.0 Secure a job
- 10.0 Succeed on the job

ADMINISTRATIVE INFORMATION SERVICES

PROGRAM CODE: 52.0400

DESCRIPTION: LEVEL III

The Administrative Information Services program is designed to prepare students for employment in positions which provide administrative and organizational assistance to internal and external customers. These professionals use a variety of office technology and computer-based business applications (data base, spreadsheet, word processing, graphics, etc.,) and are often called upon to be in-house experts on adapting such technology applications to the varied needs of their internal/external customers. They also support and help facilitate accurate communication and processing of information to the right customers at the right times.

Administrative Information Services competencies include:

- 1.0 Identify and satisfy customer needs and plan work activities
- 2.0 Manage schedules, activities, and events
- 3.0 Prepare and maintain financial information
- 4.0 Generate and maintain documents and information
- 5.0 Manage resources
- 6.0 Develop, implement, and evaluate work processes and procedures
- 7.0 Initiate and facilitate communication
- 8.0 Conduct a job search
- 9.0 Secure a job
- 10.0 Succeed on the job

AGRICULTURAL BUSINESS MANAGEMENT – AGRISCIENCE

PROGRAM CODE: 01.0300

DESCRIPTION: Level III

CIP 01.0300 in Development. Use competencies identified for either Animal Science or Plant Science listed below, until the new program for Agriscience is developed.

Agricultural Business Management-Animal Science competencies include:

- 1.0 Practice personal and human relations skills in career development
- 2.0 Demonstrate business management practices
- 3.0 Demonstrate financial management practices
- 4.0 Apply approved practices in purchasing/marketing to maximize profit
- 5.0 Apply approved practices of animal feeding and nutrition
- 6.0 Apply approved practices in animal breeding and reproduction
- 7.0 Apply approved practices of animal health
- 8.0 Describe biotechnology techniques used in animal production
- 9.0 Construct and maintain animal facilities and equipment
- 10.0 Apply approved practices for environmental control of confined animals
- 11.0 Apply approved practices in laying concrete for facilities
- 12.0 Apply approved practices in using woodworking to construct animal facilities
- 13.0 Apply approved practices in using metalworking to construct animal facilities
- 14.0 Apply approved safety practices when working with animals
- 15.0 Conduct a job search
- 16.0 Secure a job
- 17.0 Succeed on the job

Agricultural Business Management-Plant Science competencies include:

- 1.0 Demonstrate personal and human relations skills
- 2.0 Demonstrate business management practices
- 3.0 Demonstrate financial management practices
- 4.0 Apply approved practices in purchasing/marketing to maximize profit
- 5.0 Demonstrate approved seed selection and germination practices
- 6.0 Demonstrate approved biotechnology techniques in plant production
- 7.0 Identify approved practices in renewable and natural resources

AGRICULTURAL BUSINESS MANAGEMENT – AGRISCIENCE-CONTINUED

- 8.0 Demonstrate personal and human relations skills
- 9.0 Demonstrate business management practices
- 10.0 Demonstrate financial management practices
- 11.0 Apply approved practices in purchasing/marketing to maximize profit
- 12.0 Demonstrate approved seed selection and germination practices
- 13.0 Demonstrate approved biotechnology techniques in plant production
- 14.0 Identify approved practices in renewable and natural resources
- 15.0 Design, construct, and operate irrigation systems
- 16.0 Manage a pest control program
- 17.0 Manage a plant disease control program
- 18.0 Manage a weed control program
- 19.0 Apply approved practices in plant nutrition
- 20.0 Harvest crops to ensure maximum yield
- 21.0 Operate and maintain equipment machinery
- 22.0 Construct and maintain facilities and equipment
- 23.0 Apply approved construction principles of plant science
- 24.0 Apply approved safety practices
- 25.0 Conduct a job search
- 26.0 Secure a job
- 27.0 Succeed on the job

AGRICULTURAL BUSINESS MANAGEMENT - HORTICULTURE

PROGRAM CODE

01.0600

DESCRIPTION:

LEVEL III

The Agricultural Business Management-Horticulture program is designed to prepare students for employment in various production, sales, and supply positions related to horticulture. Specific careers include: landscape design, installation and maintenance; nursery management; biotechnology; and turf grass management. In addition to required technical skills, students will possess leadership skills, advanced employability skills, applied academics, and life management skills.

Agricultural Business Management-Horticulture competencies include:

- 1.0 Demonstrate personal and human relations skills
- 2.0 Demonstrate business management practices
- 3.0 Demonstrate business accounting practices
- 4.0 Demonstrate sales and merchandising techniques
- 5.0 Identify and select ornamental plants
- 6.0 Operate and maintain plant growth structures
- 7.0 Propagate, grow, and maintain nursery stock
- 8.0 Design landscapes
- 9.0 Install landscapes
- 10.0 Construct hardscapes
- 11.0 Apply approved practices in laying concrete
- 12.0 Install and maintain residential and commercial turf
- 13.0 Perform golf course maintenance practices
- 14.0 Design, construct and operate irrigation systems
- 15.0 Maintain exterior landscapes
- 16.0 Maintain interior landscapes
- 17.0 Design and prepare floral arrangements
- 18.0 Produce fruit, nut and vegetable crops
- 19.0 Apply approved safety practices in horticultural occupations
- 20.0 Apply fertilizer and chemicals
- 21.0 Operate and maintain horticultural equipment
- 22.0 Conduct a job search
- 23.0 Secure a job
- 24.0 Succeed on the job

AGRICULTURAL BUSINESS MANAGEMENT - RENEWABLE NATURAL RESOURCES

PROGRAM CODE: 03.0200

DESCRIPTION: Level III

The Agricultural Business Management - Renewable Natural Resources program is designed to prepare students for employment in various occupations related to fisheries, wildlife, range management, forestry, ecology, and environmental science. Students completing this program will possess the technical knowledge and skills associated with natural resources careers. In addition to the required technical skills, students will possess leadership skills, advanced employability skills, communication skills, critical thinking skills, applied academics, and life management skills.

Agricultural Business Management-Renewable Natural Resources competencies include:

- 1.0 Demonstrate personal and human relations skills
- 2.0 Demonstrate business management practices
- 3.0 Demonstrate approved safety practices to natural resources occupations
- 4.0 Describe environmental sciences
- 5.0 Describe the ecology of natural resources
- 6.0 Describe soil and water management practices
- 7.0 Describe range management practices
- 8.0 Demonstrate wildlife management practices
- 9.0 Demonstrate fisheries management practices
- 10.0 Demonstrate forestry practices
- 11.0 Describe renewable energy resources
- 12.0 Describe air resources
- 13.0 Operate and maintain equipment and machinery
- 14.0 Construct and maintain facilities and equipment
- 15.0 Apply approved practices in laying concrete for facilities
- 16.0 Apply approved practices in using woodworking to construct facilities
- 17.0 Apply approved practices in using metalworking to construct facilities
- 18.0 Conduct a job search
- 19.0 Secure a job
- 20.0 Succeed on the job

ALLIED HEALTH SERVICES

PROGRAM CODE: 51.0800

DESCRIPTION: Level III

CIP 51.0800 in Development. Use competencies identified for either Medical Laboratory Assisting or Physical Therapy Aide listed below, until the new program for Allied Health Services is developed.

Medical Laboratory Assisting competencies include:

- 1.0 Functions as a part of the medical laboratory staff
- 2.0 Utilize professional communication techniques to maintain rapport with clients and health team members
- 3.0 Demonstrate medical ethics with other health professionals, the patient and the public
- 4.0 Utilize general safety measures for the protection of personnel and patients in the clinical laboratory
- 5.0 Apply cardiopulmonary resuscitation techniques to persons in cardiac distress
- 6.0 Utilize human relations skills to support physical, emotional and intellectual needs of each patient
- 7.0 Utilize principles of work relationships, supervision and management to maximize working conditions with health care team members
- 8.0 Utilize clinical laboratory terminology to communicate with health care team members
- 9.0 Utilize laboratory measurement, mathematics and statistics to assist in analyzing and scrutinizing laboratory data
- 10.0 Describe quality assurance (qa) in the clinical laboratory
- 11.0 Maintain aseptic technique to aid in the control of infection within the health care environment
- 12.0 Procure specimens for laboratory analysis
- 13.0 Obtain blood specimens for laboratory analysis
- 14.0 Obtain urine and stool and other specimens for laboratory analysis
- 15.0 Process specimens for clinical laboratory analysis
- 16.0 Perform urinalysis tests ordered by physician
- 17.0 Perform microbiological tests ordered by physician
- 18.0 Perform hematology testing in a clinical laboratory
- 19.0 Describe other tests in a clinical laboratory

ALLIED HEALTH SERVICES, CONTINUED

- 20.0 Perform clinical chemistry testing
- 21.0 Record and report laboratory test data
- 22.0 Maintain inventory control of laboratory supplies
- 23.0 Conduct a job search
- 24.0 Secure a job
- 25.0 Succeed on the job

Physical Therapy Aid competencies include:

- 1.0 Describe the health care system including multi-disciplinary team approach
- 2.0 Identify critical factors related to patient/health care providers' interaction in the health care environment
- 3.0 Demonstrate ethical and legal practices
- 4.0 Demonstrate general safety procedures
- 5.0 Demonstrate knowledge of infection control
- 6.0 Read and interpret medical terminology associated with physical therapy
- 7.0 Describe basic human anatomy and physiology
- 8.0 Assist physical therapist or physical therapist assistant with application of physical modalities
- 9.0 Assist physical therapist or physical therapist assistant with application of therapeutic exercises
- 10.0 Assist physical therapist or physical therapy assistant with application of gait training
- 11.0 Demonstrate use of specialized equipment for the physically disabled
- 12.0 Conduct a job search
- 13.0 Secure a job
- 14.0 Succeed on the job

APPAREL DESIGN AND MERCHANDISING

PROGRAM CODE: 20.0300

DESCRIPTION: Level III

The Apparel Design and Merchandising program is designed to prepare students for employment in various apparel design and production careers and sales, customer service, and/or first-line supervisory positions in apparel wholesale and retail establishments. A student completing this program will possess the technical knowledge and skills associated with apparel design and production, and apparel selection, purchase, sales, and promotion. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Apparel Design and Merchandising competencies include:

- 1.0 Analyze the apparel design and merchandising industry
- 2.0 Examine business opportunities in apparel design and merchandising
- 3.0 Demonstrate store operation procedures
- 4.0 Demonstrate design techniques
- 5.0 Demonstrate garment construction techniques
- 6.0 Conduct a job search
- 7.0 Secure a job
- 8.0 Succeed on the job

BUILDING MAINTENANCE

PROGRAM CODE: 46.0400

DESCRIPTION: Level III

The Building Maintenance program prepares individuals to maintain the physical plant and operating systems of commercial and residential buildings. It includes instruction in safety, construction, installation, and repair skills related to carpentry, air conditioning, heating, plumbing, electrical, masonry, custodial equipment, and other mechanical systems. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Building Maintenance competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Perform carpentry duties
- 3.0 Perform electrical duties
- 4.0 Perform HVAC/R multi disciplinary maintenance duties
- 5.0 Perform masonry duties
- 6.0 Perform plumbing duties
- 7.0 Perform general building maintenance duties
- 8.0 Conduct a job search
- 9.0 Secure a job
- 10.0 Succeed on the job

BUILDING TRADES

PROGRAM CODE: 46.9900

DESCRIPTION: Level III

This program provides practical experience and related technical information for occupations specializing in residential building trades. Construction processes in carpentry, electrical wiring, plumbing and masonry are the main occupational areas taught. Instruction includes identification and usage of materials, blueprint reading, and the use of hand and power tools. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Building Trades competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Operate hand and power tools/equipment
- 3.0 Use plans, specifications and codes
- 4.0 Lay out building lines
- 5.0 Perform concrete/masonry work
- 6.0 Frame floors/walls/roof
- 7.0 Identify thermal, sound and moisture protection
- 8.0 Apply exterior finishes
- 9.0 Install doors and windows
- 10.0 Install interior drywall/paneling
- 11.0 Install interior trim, case goods and hardware
- 12.0 Assemble plumbing system and water distribution system
- 13.0 Describe hvac systems
- 14.0 Install electrical components/system(s)
- 15.0 Apply interior/exterior finishes
- 16.0 Perform records and management duties
- 17.0 Conduct a job search
- 18.0 Secure a job
- 19.0 Succeed on the job

BUSINESS INFORMATION TECHNOLOGY SERVICES

PROGRAM CODE: 52.1200

DESCRIPTION: Level III

IN DEVELOPMENT

BUSINESS MANAGEMENT AND ADMINISTRATIVE SERVICES

PROGRAM CODE: 52.0200

DESCRIPTION: Level III

IN DEVELOPMENT

CABINETMAKING

PROGRAM CODE: 48.0700

DESCRIPTION: Level III

The Cabinetmaking program prepares individuals to work in the field of millwork and cabinetmaking, and to produce such articles as frames, molding, panels, and residential/commercial cabinetry. Instruction includes job planning, drafting, material layout, cutting, shaping, assembling, finishing of wood pieces, and installing hardware. It also contains information related to print reading, production, installation, and computer applications. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Cabinetmaking competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Operate power and hand equipment
- 3.0 Estimate materials
- 4.0 Detailing and billing
- 5.0 Produce cabinets
- 6.0 Installation of cabinets
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

CARPENTRY

PROGRAM CODE: 46.0200

Description: Level III

This program provides practical experience and related technical information for occupations specializing in carpentry. Construction processes, materials identification, blueprint reading, use of hand and power tools, and safe work habits are key elements. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Carpentry competencies include:

- 1.0 Maintain a safe work environment
- 2.0 Use blueprints
- 3.0 Use layout tools
- 4.0 Lay out building lines
- 5.0 Form concrete
- 6.0 Frame floors
- 7.0 Frame walls
- 8.0 Frame roofs
- 9.0 Apply exterior finishes
- 10.0 Install roofing components
- 11.0 Install thermal, sound and moisture protection
- 12.0 Install doors, windows and trim
- 13.0 Conduct a job search
- 14.0 Secure a job
- 15.0 Succeed on the job

COSMETOLOGY

PROGRAM CODE: 12.0400

DESCRIPTION: Level III

The Cosmetology program is designed to prepare students for employment in various cosmetology and beauty establishments. A student completing this program will possess the technical knowledge and skills associated with cosmetology, nail technology, hair styling, make-up, aesthetics, and wig styling. Students completing this program will also gain knowledge of business/salon management. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Cosmetology competencies include:

- 1.0 Investigate cosmetology careers and opportunities for advancement
- 2.0 Demonstrate safety precautions and basic first-aid procedures
- 3.0 Demonstrate disinfection procedures
- 4.0 Classify chemicals used in a salon
- 5.0 Demonstrate scalp and hair treatment
- 6.0 Demonstrate haircutting techniques
- 7.0 Demonstrate styling techniques
- 8.0 Demonstrate chemical reformation (permanent waving) techniques
- 9.0 Demonstrate hair-relaxing techniques
- 10.0 Demonstrate curl reformation (overcurly hair)
- 11.0 Demonstrate hair color techniques
- 12.0 Demonstrate hair lightening (bleaching) and toning techniques
- 13.0 Demonstrate nail technology
- 14.0 Demonstrate facial treatments
- 15.0 Demonstrate professionalism
- 16.0 Demonstrate management skills
- 17.0 Conduct a job search
- 18.0 Secure a job
- 19.0 Succeed on the job

DENTAL SERVICES

PROGRAM CODE: 51.0600

DESCRIPTION: Level III

The Dental Services program is designed to prepare students for employment in the dental health profession. Entering students need to have interpersonal skills, good eye-hand coordination, and the ability to organize and sequence. Students successfully completing this program will possess technical knowledge and skills gained through the classroom, the skills laboratory, and the dental setting. In addition to the required technical skills, students will possess advanced employability competencies including thinking skills, applied academics, and life management skills.

Dental Services competencies include:

- 1.0 Function as a part of the dental health team
- 2.0 Describe OSHA's guidelines
- 3.0 Demonstrate the principles of infection control
- 4.0 Demonstrate basic emergency procedures
- 5.0 Identify dental terminology
- 6.0 Describe the components of the treatment room and equipment
- 7.0 Demonstrate human relations skills
- 8.0 Demonstrate operation procedures
- 9.0 Prepare dental instruments for operative procedures
- 10.0 Perform chair side assisting procedures
- 11.0 Prepare dental waxes, cements and restorative materials
- 12.0 Prepare oral impressions
- 13.0 Demonstrate proper radiology techniques
- 14.0 Operate and maintain laboratory equipment using OSHA standards
- 15.0 Identify morphology, histology, and embryology of the human dentition
- 16.0 Describe the function of the soft tissue and oral structure
- 17.0 Describe dental anatomy
- 18.0 Chart existing oral conditions
- 19.0 Describe preventative dentistry
- 18.0 Educate patients about home dental care techniques
- 19.0 Identify oral pathological conditions
- 20.0 Process clinical records
- 21.0 Maintain supplies for the dental office
- 22.0 Describe other areas of dentistry

DENTAL SERVICES-CONTINUED

- 23.0 Conduct a job search
- 24.0 Secure a job
- 25.0 Succeed on the job

DRAFTING TECHNOLOGY

PROGRAM CODE: 48.0100

DESCRIPTION: Level III

The Drafting Technology program is designed to offer students the necessary technical knowledge and skills to plan and prepare scale interpretations of engineering, design and architectural projects. The program includes instruction in the use of precision drawing instruments, computer-assisted design and drafting (CADD), sketching and illustration, and interpreting specifications. In addition to technical skills, the student completing this program will possess critical thinking, employability, applied academic, life management, business, economic, and leadership skills required for drafting occupations.

Drafting Technology competencies include:

- 1.0 Use board drafting equipment, instruments and media
- 2.0 Demonstrate sketching, lettering, and line skills
- 3.0 Demonstrate dimensioning and tolerancing skills
- 4.0 Construct orthographic projections
- 5.0 Construct pictorial drawings
- 6.0 Demonstrate geometric constructions
- 7.0 Explore descriptive geometry
- 8.0 Apply board drafting skills to computer aided design/drafting (CADD)
- 9.0 Investigate materials, processes and products
- 10.0 Apply problem-solving skills to produce a complete set of drawings
- 11.0 Demonstrate safety knowledge and safe work habits
- 12.0 Conduct a job search
- 13.0 Secure a job
- 14.0 Succeed on the job

EARLY CHILDHOOD PROFESSIONS

PROGRAM CODE: 20.0200

DESCRIPTION: Level III

The Early Childhood Professions program is designed to prepare students for employment in early childhood educational, residential, and institutional settings. The program includes instruction in child growth and development; child health, nutrition, and safety; planning and supervision of developmentally appropriate play and learning activities; child guidance; relationships with family members; applicable legal and administrative requirements; and preparation for the development and management of effective early childhood programs and facilities.

Early Childhood Professions competencies include:

- 1.0 Demonstrate knowledge of physical growth and development
- 2.0 Demonstrate knowledge of cognitive development
- 3.0 Demonstrate knowledge of language development
- 4.0 Demonstrate knowledge of social and emotional development
- 5.0 Demonstrate effective teaching techniques
- 6.0 Promote social competence
- 7.0 Observe behavior and development of children
- 8.0 Examine legal and ethical policies and procedures
- 9.0 Demonstrate safety procedures
- 10.0 Demonstrate cleaning/sanitation skills
- 11.0 Assess physical well-being of children
- 12.0 Demonstrate personal care of children
- 13.0 Facilitate communication with families
- 14.0 Demonstrate knowledge of child nutrition
- 15.0 Analyze early childhood professions
- 16.0 Conduct a job search
- 17.0 Secure a job
- 18.0 Succeed on the job

ELECTRONICS TECHNOLOGY

PROGRAM CODE: 47.0100

DESCRIPTION: Level III

This Electronics Technology program is designed to prepare students with key technical knowledge and skills necessary to manufacture, repair, service, maintain and install electronics equipment. Level III completers will be able to: practice workplace safety, demonstrate problem solving, use electronic tools and equipment, apply electronics fundamentals, construct and repair circuits, analyze semiconductor and logic devices, demonstrate computer use and describe industrial electronics. Students completing the Level IV Postsecondary component of the coherent sequence will be qualified as entry level workers in computer repair and maintenance establishments, communications industries, retail/wholesale electronics appliance establishments, and electronics manufacturers. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Electronics Technology competencies include:

- 1.0 Practice workplace safety principles for electronic technology
- 2.0 Use electronic tools and testing/measuring instruments
- 3.0 Apply fundamentals of direct current (dc)
- 4.0 Apply fundamentals of alternating current (ac)
- 5.0 Solve active circuits
- 6.0 Solve logic devices
- 7.0 Analyze semiconductor devices
- 8.0 Conduct a job search
- 9.0 Secure a job
- 10.0 Succeed on the job

FINANCIAL SERVICES

PROGRAM CODE: 52.0800

DESCRIPTION: Level III

The Financial Services program is designed to prepare students for careers in financial, investment and related services. With advanced training and/or postsecondary education, students may be able to obtain management positions in these areas. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Financial Services competencies include:

- 1.0 Analyze functions of financial institutions
- 2.0 Explain the roles of regulatory agencies
- 3.0 Differentiate among products and services offered by financial institutions
- 4.0 Examine and maintain financial documents
- 5.0 Analyze types of asset risk management
- 6.0 Demonstrate interpersonal skills
- 7.0 Describe security measures in financial institutions
- 8.0 Explore careers in financial services institutions
- 9.0 Develop a financial plan
- 10.0 Conduct a job search
- 11.0 Secure a job
- 12.0 Succeed on the job

FIRE SCIENCE

PROGRAM CODE: 43.0200

DESCRIPTION: Level III

The Fire Science program is designed to prepare students for employment in fire prevention and firefighting careers, as well as providing orientation towards emergency medical technician, paramedic, hazardous materials, and rescue techniques. A student completing this program will possess the basic technical knowledge and skills associated with the use and maintenance of tools and equipment in firefighting and procedures in emergency medical/first aid. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Fire Science competencies include:

- 1.0 Analyze the role and organization of the firefighting industry
- 2.0 Analyze employment in the firefighting industry
- 3.0 Demonstrate technology used by firefighters
- 4.0 Demonstrate safety procedures and protective equipment
- 5.0 Explain fire behavior
- 6.0 Demonstrate use of firefighting tools and equipment
- 7.0 Describe fire control methods
- 8.0 Demonstrate rescue/extrication, and forcible entry procedures
- 9.0 Demonstrate fire prevention methods and public education
- 10.0 Describe fire service response to hazardous materials emergency
- 11.0 Analyze fire service response to medical emergencies
- 12.0 Investigate emergency vehicles and their operation
- 13.0 Demonstrate firefighting hydraulics
- 14.0 Demonstrate technical rescue techniques
- 15.0 Demonstrate wild land firefighting techniques
- 16.0 Demonstrate physical fitness
- 17.0 Conduct a job search
- 18.0 Secure a job
- 19.0 Succeed on the job

FOOD PRODUCTION/CULINARY ARTS

PROGRAM CODE: 12.0500

DESCRIPTION: Level III

The Food Production/Culinary Arts program is designed to prepare students to apply technical knowledge and skills required for food production and service occupations in institutional and commercial food establishments. Skills developed in this program include food identification, food selection, food storage, safety and sanitation, personal hygiene, and use of commercial food equipment. Nutrition, special diets, and management of food establishments will also be addressed.

In addition to technical skills, the student completing Levels I, II, and III will explore career opportunities in the field and develop critical thinking, employability, applied academic and life management skills. These include business, economic and leadership skills. Students will develop communication, human relations and employability skills needed to be successful in acquiring and holding a job.

Food Production/Culinary Arts competencies include:

- 1.0 Apply sanitation, safety, and first aid procedures
- 2.0 Use large commercial grade equipment
- 3.0 Use small commercial wares and equipment
- 4.0 Prepare bakery and pastry products
- 5.0 Prepare hot and cold foods
- 6.0 Demonstrate marketing and merchandising of food products
- 7.0 Perform front of house duties
- 8.0 Manage food production inventory
- 9.0 Analyze careers in food production/culinary arts
- 10.0 Conduct a job search
- 11.0 Secure a job
- 12.0 Succeed on the job

GRAPHIC COMMUNICATION

PROGRAM CODE: 48.0200

DESCRIPTION: Level III

This instructional program prepares individuals to apply technical knowledge and skills to plan, prepare, and execute visual images and produce printed products. Students will use mechanical, electronic, and digital graphic and printing equipment. This curriculum is based, in part, on the Printing Industries of America's PrintED industry standards and the National Council for Skill Standards in Graphic Communications. In addition to technical knowledge skills, the student completing Levels I, II, and III will develop skills in critical thinking, employability, applied academics, and life management.

Graphic Communication competencies include:

- 1.0 Maintain a safe work environment
- 2.0 Use electronic imaging systems
- 3.0 Layout and print a page
- 4.0 Scan line copy and artwork
- 5.0 Create and modify graphic images
- 6.0 Modify and produce a photographic reproduction using a graphic arts camera
- 7.0 Assemble film, prepare proofs and process offset plates
- 8.0 Set up and operate offset press
- 9.0 Set up and operate binding equipment
- 10.0 Perform production planning duties
- 11.0 Identify legal issues and industry trade customs
- 12.0 Conduct a job search
- 13.0 Secure a job
- 14.0 Succeed on the job

HEATING, VENTILATION, AND AIR CONDITIONING/REFRIGERATION

PROGRAM CODE: 47.0200

DESCRIPTION: Level III

The Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R) program prepares individuals to install, repair, and maintain heating, ventilating, and air conditioning/refrigeration systems using equipment necessary on the actual job and/or industry trainers. Information on the scientific principles of heat transfer, electrical, ventilation, hydronics, and control systems is basic to the course. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Heating, Ventilation and Air Conditioning/Refrigeration competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Explain the fundamentals of basic electricity
- 3.0 Interpret and apply codes for complying with regulations
- 4.0 Read and interpret charts, drawings and schematics needed for completing assigned job
- 5.0 Install duct work to meet job specifications requirements
- 6.0 Install equipment to meet code requirements
- 7.0 Install, start, troubleshoot and service control systems and equipment
- 8.0 Troubleshoot and service control systems and equipment
- 9.0 Conduct a job search
- 10.0 Secure a job
- 11.0 Succeed on the job

HEAVY EQUIPMENT OPERATION

PROGRAM CODE: 49.0200

DESCRIPTION: LEVEL III

This instructional program prepares individuals to operate and maintain a variety of construction equipment such as: crawler dozers, paving machines, trenchers, motor graders, scrapers, front end loaders, back hoes, compaction equipment, pumps and compressors. The program includes start up and operating instruction, maintenance of construction equipment and the safety relating to equipment operation. Instruction in excavating, ditching, sloping, grading, compacting, backfilling as well as information relating to current technology in construction equipment operating systems will be included. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Heavy Equipment Operation competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Demonstrate use of hand and power tools
- 3.0 Perform equipment inspections
- 4.0 Identify the operation and transmission of power
- 5.0 Perform maintenance duties
- 6.0 Operate heavy equipment
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

HOSPITALITY SERVICES

PROGRAM CODE: 08.0900

DESCRIPTION: Level III

The Hospitality Services program is designed to prepare students for employment in positions that provide customer-focused services in such facilities as hotels, meeting centers, hospitals, education facilities, shopping malls, recreation parks, and office buildings. A student completing this program will possess the knowledge and skills associated with reservations and front desk operations, meeting and banquet room support services, food and beverage support services, housekeeping, laundry operations, supervisory functions, and environmental functions. In addition to these skills, students will possess advanced employability skills including critical and conceptual thinking, communications, applied academics, life management, and technology.

Hospitality Services competencies include:

- 1.0 Analyze customer services within the hospitality industry
- 2.0 Analyze entrepreneurial opportunity in the hospitality industry
- 3.0 Establish quality customer services
- 4.0 Demonstrate customer services functions
- 5.0 Demonstrate supervisory functions
- 6.0 Demonstrate environmental functions
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

LAW ENFORCEMENT

PROGRAM CODE: 43.0100

DESCRIPTION: Level III

The Law Enforcement program is designed to prepare students for employment in law enforcement, public and private security, and correctional occupations. A student completing this program will develop the technical knowledge and skills associated with policing, civil/criminal investigations, and corrections professions. In addition to the required technical skills, students will develop advanced employability skills, applied academic skills, life management skills, and technology skills.

Law Enforcement competencies include:

- 1.0 Analyze the evolution of law enforcement
- 2.0 Analyze legal aspects of law enforcement
- 3.0 Demonstrate communication skills
- 4.0 Demonstrate human relations skills
- 5.0 Describe safety precautions and first-aid procedures
- 6.0 Demonstrate patrol procedures
- 7.0 Demonstrate traffic control and enforcement
- 8.0 Demonstrate investigative procedures
- 9.0 Investigate police proficiency skills
- 10.0 Examine specialized units
- 11.0 Analyze corrections industry
- 12.0 Analyze private security
- 13.0 Conduct a job search
- 14.0 Secure a job
- 15.0 Succeed on the job

MASONRY

PROGRAM CODE: 46.0100

DESCRIPTION: Level III

The Masonry program prepares individuals to lay building materials such as: brick, concrete block, pavers, to construct or repair walls, and other structures. Students will use trowels, levels, hammers, chisels, masonry saws, mixers, and other necessary hand or power tools of the trade. Fundamentals of masonry include the information and basic skills necessary to build from blueprints: residential, commercial, and industrial structures. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Masonry competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Use hand and power masonry tools
- 3.0 Use blueprints/drawings
- 4.0 Mix mortar and concrete
- 5.0 Use scaffolding
- 6.0 Demonstrate concrete work related to footings
- 7.0 Lay brick/block to specifications
- 8.0 Conduct a job search
- 9.0 Secure a job
- 10.0 Succeed on the job

MEDIA COMMUNICATION

PROGRAM CODE: 10.0100

DESCRIPTION: Level III

The Media Communication program of study is designed to prepare students for entry-level employment in various communications industries such as radio and television broadcasting, film and video production, the internet and interactive media. Completers will experience the design, development, production, promotion and distribution of media products within these industries. In addition to the required technical skills, students will possess employability skills, critical and conceptual thinking, applied academics, life management and technology management skills.

Media Communication competencies include:

- 1.0 Demonstrate media literacy
- 2.0 Demonstrate technical skills for media
- 3.0 Demonstrate pre-production skills for media
- 4.0 Demonstrate media production
- 5.0 Demonstrate editing and post production skills
- 6.0 Investigate the role of promotion and advertising in media
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

NURSING SERVICES

PROGRAM CODE: 51.1600

DESCRIPTION: Level III

The Nursing Services program is designed to prepare students for a variety of health care settings. Students who complete this program will have the technical knowledge and skills to become certified as a Nursing Assistant, the competencies to be accepted in a postsecondary health care program, and the skills to seek employment in new and emerging occupations. In addition to the required technical skills, students will have advanced employability skills including thinking skills, applied academics, and life management skills.

Nursing Services competencies include:

- 1.0 Function as a member of the health team in the health care industry
- 2.0 Demonstrate communication skills
- 3.0 Practice ethical and legal behavior
- 4.0 Analyze human body systems relative to common conditions and disorders and their care
- 5.0 Maintain a safe, clean, comfortable environment for the client
- 6.0 Demonstrate general principles of cleanliness (asepsis)
- 7.0 Assist the client in meeting nutritional needs
- 8.0 Provide basic emergency care
- 9.0 Demonstrate personal care and related procedures
- 10.0 Monitor vital signs
- 11.0 Facilitate activities related to elimination
- 12.0 Apply principles of body mechanics to positioning, transporting, transferring, and ambulating the client
- 13.0 Assist client with restorative activities
- 14.0 Perform or assist with diagnostic testing and examinations
- 15.0 Care for client receiving heat and cold treatments
- 16.0 Care for client with behavior that compromises safety of self and/or others
- 17.0 Care for the perioperative client
- 18.0 Care for client with binders, bandages, dressings, and anti-embolic devices
- 19.0 Assist with admission, transfer, and discharge of client
- 20.0 Examine health-related issues of special populations
- 21.0 Care for the dying client and his/her family
- 22.0 Conduct a job search
- 23.0 Secure a job
- 24.0 Succeed on the job

PLUMBING

PROGRAM CODE: 46.0500

DESCRIPTION: Level III

The Plumbing program prepares individuals to assemble, install, and repair: pipes, fittings, and fixtures of heating, water, and drainage systems, according to specification and plumbing codes. Fundamentals of plumbing include the information and basic skills necessary to build from blueprints: residential, commercial, and industrial structures. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Plumbing competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Operate power and hand equipment
- 3.0 Interpret drawings and specifications
- 4.0 Perform records filing and management duties
- 5.0 Demonstrate cutting, threading, and assembling pipe
- 6.0 Install soil, waste and vent systems within local code requirements
- 7.0 Install a water distribution system
- 8.0 Install plumbing fixtures and equipment
- 9.0 Maintain plumbing installations
- 10.0 Conduct a job search
- 11.0 Secure a job
- 12.0 Succeed on the job

PRECISION METAL WORKERS

PROGRAM CODE: 48.0500

DESCRIPTION: Level III

CIP 48.0500 in Development. Use competencies identified for Machining Technology, Welding and Sheet Metal listed below, until new program for Precision Metal Workers is developed.

Machining Technology competencies include:

- 1.0 Maintain a safe work environment
- 2.0 Perform measurement functions
- 3.0 Perform blueprint reading and layout
- 4.0 Demonstrate quality processes and procedures
- 5.0 Perform benchwork
- 6.0 Operate a drill press
- 7.0 Operate power saws
- 8.0 Operate lathes
- 9.0 Operate milling machines
- 10.0 Operate grinders
- 11.0 Conduct a job search
- 12.0 Secure a job
- 13.0 Succeed on the job

Welding Technology competencies include:

- 1.0 Maintain a safe work environment
- 2.0 Lay out and fit up project from blueprints
- 3.0 Set up and use cutting equipment
- 4.0 Set up and use shielded metal arc welding (maw) equipment
- 5.0 Set up and use gas metal arc welding (maw) equipment
- 6.0 Set up and use oxyfuel equipment
- 7.0 Set up and use gas tungsten arc welding (gtaw) equipment
- 8.0 Set up and use flux cored arc welding (fcaw) equipment
- 9.0 Use auxiliary equipment and tools
- 10.0 Perform weldment testing
- 11.0 Conduct a job search
- 12.0 Secure a job
- 13.0 Succeed on the job

PRECISION METAL WORKERS, CONTINUED

Sheet Metal competencies include:

- 1.0 Design sheet metal parts or assemblies according to instructions, drawings and handbook references
- 2.0 Cut patterns with hand tools to form sheet metal assemblies and subassemblies
- 3.0 Cut patterns with machinery for sheet metal fabrication
- 4.0 Use hand tools to form sheet metal patterns
- 5.0 Use machine tools to form sheet metal patterns
- 6.0 Use a variety of fasteners and adhesives to assemble sheet metal sections
- 7.0 Use hot metal techniques to assemble sheet metal patterns
- 8.0 Use fiberglass and plastic patterns to form an assembly
- 9.0 Conduct a job search
- 10.0 Secure a job
- 11.0 Succeed on the job

RESIDENTIAL ELECTRICIAN

PROGRAM CODE: 46.0300

DESCRIPTION: Level III

The Residential Electrician program prepares individuals to install, operate, maintain, trouble shoot and repair residential electrical systems. Fundamentals of the electrical trade include the information and basic skills for identification and usage of materials, blueprint reading, and the use of hand and power tools associated with residential wiring. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Residential Electrician competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Identify tools and equipment needed to complete work in the electrical trades.
- 3.0 Select and identify material to meet local code
- 4.0 Read blueprint and schematics to determine location of work to be done
- 5.0 Compute service loads to meet local code
- 6.0 Rough in feeders, branch circuit cables, and circuits to meet local code
- 7.0 Install lighting circuit fixtures to meet local code
- 8.0 Install environmental control components to meet local code
- 9.0 Install and maintain service entrance to meet local code
- 10.0 Install lighting fixtures to meet local code
- 11.0 Trim out electrical devices and appliances to meet local code
- 12.0 Plan and organize work to schedule manpower and materials
- 13.0 Install and maintain basic electrical circuits to meet local code
- 14.0 Install switch boxes and outlet boxes to meet local code
- 15.0 Maintain existing wiring to maintain longevity and safety of residence
- 16.0 Conduct a job search
- 17.0 Secure a job
- 18.0 Succeed on the job

SALES AND MARKETING

PROGRAM CODE: 08.0700

DESCRIPTION: Level III

The Sales and Marketing program is designed to prepare students for employment in various sales, customer service, and/or first-line supervisory positions in wholesale, retail, and service establishments. A student completing this program will possess the technical knowledge and skills associated with sales, marketing, and related activities for broad categories of products and services. In addition to the required technical skills, students will possess advanced employability, critical thinking, applied academics, life management, business, economic, and leadership skills required for employees in sales and marketing occupations. Students will need good grooming and attendance/punctuality skills to be successful in acquiring and maintaining a job.

Sales and Marketing competencies include:

- 1.0 Compare economic systems
- 2.0 Describe the effects of economics on marketing decisions
- 3.0 Describe economic growth and change
- 4.0 Describe international marketing activities
- 5.0 Examine the role of marketing in making business decisions
- 6.0 Demonstrate preselling skills
- 7.0 Apply retail selling techniques
- 8.0 Examine commercial selling techniques
- 9.0 Examine consumer credit
- 10.0 Perform promotional activities
- 11.0 Describe factors influencing distribution decisions
- 12.0 Minimize shortages and losses due to errors, waste, and theft
- 13.0 Describe factors influencing buying and pricing decisions
- 14.0 Describe product planning decisions
- 15.0 Describe characteristics of small business
- 16.0 Examine financial considerations for a business
- 17.0 Use technology to support marketing tasks
- 18.0 Describe legal and ethical issues in marketing
- 19.0 Conduct a job search
- 20.0 Secure a job
- 21.0 Succeed on the job

UPHOLSTERING

PROGRAM CODE: 48.0300

DESCRIPTION: Level III

The Upholstering program prepares individuals to work in all fields of upholstery including: automobiles, aircraft interiors, recreational vehicles (mobile homes, boats, and motorcycles), and furniture. Students will learn about non-apparel needle trade production such as awnings, athletic equipment, and special safety restraints. In addition to the required technical skills, students will possess advanced employability skills including critical and conceptual thinking skills, applied academics, life management, and technology.

Upholstering competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Describe careers in upholstery field
- 3.0 Demonstrate use of hand tools, power tools, and equipment
- 4.0 Demonstrate sewing techniques
- 5.0 Demonstrate use of power sewing machine
- 6.0 Describe fabric and materials and their uses
- 7.0 Identify fabric and materials for job
- 8.0 Demonstrate the use of patterns
- 9.0 Layout fabric/materials for job
- 10.0 Tear down components
- 11.0 Inspect and repair frames
- 12.0 Repair and rebuild foundations
- 13.0 Install upholstery covering
- 14.0 Conduct a job search
- 15.0 Secure a job
- 16.0 Succeed on the job

VEHICLE AND MOBILE EQUIPMENT TECHNICIANS

PROGRAM CODE: 47.0600

DESCRIPTION: Level III

CIP 48.0600 in Development. Use competencies identified for Aircraft Mechanics, Air Cooled Engine Repair, Automotive Collision Repair Technology, Automotive Technology and Heavy Duty Truck Maintenance listed below, until new program is developed.

Aircraft Mechanics competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Apply principles of basic electricity
- 3.0 Use aircraft drawings
- 4.0 Perform weight and balance
- 5.0 Fabricate fluid lines and fittings
- 6.0 Use materials and processes
- 7.0 Perform ground operation and servicing
- 8.0 Perform cleaning and corrosion control
- 9.0 Document maintenance forms and records
- 10.0 Apply basic aerodynamics
- 11.0 Research maintenance publications
- 12.0 Identify mechanic privileges and limitations
- 13.0 Identify wood structures
- 14.0 Identify aircraft covering
- 15.0 Apply aircraft finishes
- 16.0 Repair sheet metal and nonmetallic structures
- 17.0 Perform welding
- 18.0 Perform assembly and rigging
- 19.0 Perform airframe inspection
- 20.0 Repair aircraft landing gear systems
- 21.0 Repair hydraulic and pneumatic power systems
- 22.0 Service cabin atmosphere control systems
- 23.0 Repair aircraft instrument systems
- 24.0 Repair communication and navigation systems
- 25.0 Repair aircraft fuel systems
- 26.0 Repair aircraft electrical systems
- 27.0 Repair position and warning systems
- 28.0 Repair ice and rain control systems

VEHICLE AND MOBILE EQUIPMENT TECHNICIANS, CONTINUED

- 29.0 Repair fire protection systems
- 30.0 Repair reciprocating engines
- 31.0 Repair turbine engines
- 32.0 Perform engine inspection
- 33.0 Repair engine instrument systems
- 34.0 Repair engine protection systems
- 35.0 Repair engine electrical systems
- 36.0 Repair lubrication systems
- 37.0 Repair ignition and starting systems
- 38.0 Repair fuel metering systems
- 39.0 Repair engine fuel systems
- 40.0 Repair induction and engine airflow systems
- 41.0 Repair engine cooling systems
- 42.0 Repair engine exhaust and reverser systems
- 43.0 Conduct a job search
- 44.0 Apply for a job
- 45.0 Secure a job
- 46.0 Succeed on the job

Air Cooled Engine Repair competencies include:

- 1.0 Demonstrate safe work habits
- 2.0 Demonstrate the use of hand and power tools
- 3.0 Service, maintain, and repair cooling and lubricating systems
- 4.0 Disassemble, inspect, and reassemble an air cooled gasoline engine
- 5.0 Service, maintain, and repair ignition system for proper operation
- 6.0 Perform alternator service
- 7.0 Perform wheel and tire service
- 8.0 Prepare and clean components for inspection and service
- 9.0 Remove and replace components
- 10.0 Service, maintain, and repair carburetors and governors
- 11.0 Perform sharpening and set up of blades
- 12.0 Demonstrate use of manufacturers microfiche, specification manuals
- 13.0 Inspect, service, replace brakes, brake components
- 14.0 Inspect, service, repair, replace transmission/transaxle
- 15.0 Inspect, service, repair, replace exhaust/emission equipment
- 16.0 Analyze, troubleshoot non/poor running equipment

VEHICLE AND MOBILE EQUIPMENT TECHNICIANS, CONTINUED

17.0 Conduct a job search

18.0 Secure a job

19.0 Succeed on the job

Automotive Collision Repair Technology competencies include:

1.0 Maintain a safe and healthy work environment

2.0 Prepare damage report

3.0 Demonstrate welding and cutting procedures

4.0 Demonstrate electrical and electronic repairs

5.0 Demonstrate mechanical repairs

6.0 Demonstrate structural repairs

7.0 Restore corrosion protection

8.0 Demonstrate panel alignment and replacement

9.0 Demonstrate metal finishing

10.0 Apply plastic body fillers

11.0 Demonstrate plastic/fiberglass repairs

12.0 Demonstrate the preparation of surfaces

13.0 Demonstrate coloring and finishing techniques

14.0 Conduct a job search

15.0 Secure a job

16.0 Succeed on the job

Automotive Technology competencies include:

1.0 Maintain safe work environment

2.0 Process work orders for service and/or repair

3.0 Perform repairs to the brake system

4.0 Perform repairs to electrical/electronic systems

5.0 Perform engine performance repairs

6.0 Perform repairs to steering and suspension systems

7.0 Conduct a job search

8.0 Secure a job

9.0 Succeed on the job

VEHICLE AND MOBILE EQUIPMENT TECHNICIANS, CONTINUED

Heavy Duty Truck Maintenance competencies include:

- 1.0 Perform safety inspections
- 2.0 Perform lubrication maintenance
- 3.0 Perform cooling system service
- 4.0 Install equipment to meet code requirements
- 5.0 Prepare and clean components for inspection and service
- 6.0 Remove, disassemble, and replace components
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

VISUAL COMMUNICATIONS

PROGRAM CODE: 50.0400

DESCRIPTION: Level III

CIP 50.0400 in Development. Use competencies identified for either Commercial Art or Photo Imaging listed below, until a new program for Visual Communications is developed.

Commercial Art competencies include:

- 1.0 Demonstrate basic lab skills
- 2.0 Demonstrate design skills
- 3.0 Demonstrate illustration skills
- 4.0 Demonstrate electronic imaging skills
- 5.0 Demonstrate art production skills
- 6.0 Demonstrate entrepreneurial skills for commercial artists
- 7.0 Conduct a job search
- 8.0 Secure a job
- 9.0 Succeed on the job

Photo Imaging competencies include:

- 1.0 Demonstrate communication and interpersonal skills for photo-imaging
- 2.0 Review imaging as an art form and communication tool
- 3.0 Demonstrate safety and maintenance skills
- 4.0 Operate camera equipment
- 5.0 Demonstrate light control skills
- 6.0 Demonstrate black/white photo-imaging skills
- 7.0 Demonstrate color photo-imaging skills
- 8.0 Demonstrate electronic imaging skills
- 9.0 Develop and maintain self-marketing tools
- 10.0 Demonstrate business skills for photo-imaging
- 11.0 Investigate the imaging profession
- 12.0 Conduct a job search
- 13.0 Secure a job
- 14.0 Succeed on the job